CLEAN AIR ACT ADVISORY COMMITTEE
Subcommittee on Energy, Clean Air, and Climate Change
Minutes from Meeting on February 4, 1999

David Doniger of EPA opened the meeting with a few welcoming remarks, and outlined the agenda for the meeting. He then introduced Joe Goffman of the Environmental Defense Fund (EDF).

1. S.2617—Credit for Early Action Act of 1998

Mr. Goffman delivered an overhead presentation on the Senate bill *S. 2617--Credit for Early Action Act of 1998*. Working with an ad hoc group of industry stakeholders (mostly utilities) and Senate staffers, EDF put together this bill which was introduced toward the end of the last Congress.

Mr. Goffman stressed that this bill is a work in progress, and was introduced to start off the discussion on early credit. "Early credit" means awarding credits for emission reductions accomplished before the first budget period of the Kyoto Protocol in 2008-2012.

The first slide depicted business-as-usual projections of GHG emissions from the United States. Mr. Goffman suggested that, given the current projections, early action is very attractive from both environmental and neutral policy perspectives, because not only would the environment be subject to lower concentrations of GHGs, but there is a greater range of policy choices available now than there will be later.

In addressing the outlook of business on the future impact of climate change, Mr. Goffman compared the situation to being asked by Clint Eastwood, "Is today your lucky day punk? Do you feel lucky?" This is the dilemma faced by businesses when deciding whether to consider climate change and the Kyoto Protocol in investment decisions. Mr. Goffman suggested that there is reluctance on the part of businesses to assign a dollar value to climate "risk."

Mr. Goffman showed a slide detailing SO_2 emissions from 1980-1997. The chart in the slide showed emissions levels well below mandates from 1995-1997 due to the acid rain allowance trading program. Using this as an example, EDF wondered if lessons from this program might be applied to the greenhouse gas issue.

Continuing to describe the goal of the early credit bill, Mr. Goffman stated that the bill would create a legal guarantee for issuing credit, that minimum conditions for eligibility would be established, and that sector-specific programs could be developed.

Mr. Goffman then discussed EDF's recent proposed revisions to S. 2617 dealing with company growth. This revision involves adjusting a company's baseline emissions. As with S. 2617, a company's baseline

• *Questions & discussion*

One participant asked if early reduction credits allocated before the first budget period would in effect tighten the fixed budget in 2008-2012 for companies that do not participate. Mr. Goffman confirmed this, with the exception of certain budget augmentation possibilities which may become apparent in the international negotiations.

Robert Stavins suggested that more focus is needed on concentrations of greenhouse gases rather than annual emissions. Mr. Stavins asked if EDF has thought about structural changes to avoid adverse selection problems inherent in the early credit bill. Mr. Goffman stated that the way that baselines are set was meant to address some of the adverse selection issues, and that is the best way that has been developed.

A participant asked, once the baseline is set, how credits are to be divided between participants. Using the example of his company's state of the art gas-fired plant being built, the participant noted that this plant will be displacing some other plant's emissions, but will also increase the company's GHG contribution. Mr. Goffman said that EDF has a straw proposal regarding this issue and would circulate it.

In response to another participant's question, Mr. Goffman clarified that the baseline would be calculated based on 1996-1998 average emissions levels. This participant suggested that "cleaner" companies may get hurt in this proposed system, because reductions below their baselines are more expensive to make than for the "dirtier" companies. Mr. Goffman agreed that this issue was important and should be discussed more in the future.

A participant asked about environmental groups' attitudes toward the number of allowances that are made available from the first budget period for businesses seeking early credit. Mr. Goffman said that most environmental groups are in favor of a cap on credits. He added that if the decisions on this cap are postponed, discussions on the details of the system will be more disciplined and of a higher quality. The participant suggested that the workgroup think about the potential misallocation of benefits in this program, and noted that it is yet to be decided whether allocations would be assigned to consumers, producers, or intermediaries. Mr. Stavins characterized this is a problem of distribution.

A co-chair of the subcommittee asked Mr. Goffman if it was important that the cap be defined early to avoid problems with oversubscription in the program and the possibility of discounting credits. Mr. Goffman answered that introducing the cap is not as significant as larger systemic issues, and that efforts would be better directed at creating an improved overall system.

Mr. Doniger concluded the discussion by addressing where the Administration stands on this issue. First, he stated that research shows that the more the early credit leverages change in the emissions path, the less businesses that do not participate early will be hurt. Regarding baseline protection, Mr. Doniger spoke about the concern of businesses that might participate in an early credit program that early action

2. Emerging Models in the Context of the Industry Consultation Process

Skip Laitner
Office of Atmospheric Programs

• *Presentation of AMIGA results*

Mr. Laitner delivered an overhead presentation entitled " Adapting Economic Analysis to the Industry Consultation Process." In this presentation, he discussed results that have been obtained from the new AMIGA (All Modular Industry Gross Assessment) model. He focused his discussion on knowledge gained from this and other modeling efforts, and how this will affect dialogue with industry during the consultation process.

The first slide compared four economic models constructed by the Council of Economic Advisors (SGM), EPA (NEMS), EIA (NEMS), and Argonne National Laboratory (AMIGA). The slide compares six features of the models, including the cost of carbon in 2010, assumed rates of energy efficiency improvement, and GDP impacts. Mr. Laitner offered to provide a complete report with the results of the AMIGA model to members of the subcommittee.

The second slide addressed the role of capital stock turnover in future GHG emissions, citing that 60 percent of emissions in 2010 are projected to come from equipment not yet purchased. Focusing on the buildings/homes, transportation, and industrial sectors, emissions from new capital stock will play a bigger role in the buildings and transportation sectors than in industry (roughly 50 percent more), because capital stock turns over at a higher rate in those sectors. To accomplish emission reduction targets, new capital stock will have to be about 20 percent more efficient than the current stock. Mr. Laitner stated that EPA's goal is to promote purchases of higher-efficiency new capital stock. Mr. Laitner added, though, that some existing capital stock can be adjusted to improve its efficiency.

The third slide depicted the complementary role of policy programs and investments in energy efficiency. A chart on the slide demonstrated that with efficiency price on the Y-axis, and level of efficiency investments on the X-axis, the demand curve could be shifted to the right with the implementation of certain programs. This shift in the demand curve indicates the increased availability of energy-efficient technology at a given price.

The fourth slide showed key elements of potential industrial sector action plans. Through investments in energy efficiency, cost-effective GHG reductions by 2010 can be obtained. Using these practices, 90-130 MtC emissions can be avoided, along with a savings of $10-18 billion in annual energy bills. Voluntary agreements with industry focusing on improving GHG intensity (i.e., GHG emissions/unit of output) will be part of a comprehensive strategy that also includes appropriate regulatory flexibility and other elements of the Administration's Climate Change Technology Initiative.

development are invention, innovation, and diffusion. The participant asked to what degree the models incorporate those stages, and for the presenter's thoughts on the policies in this context. Mr. Laitner answered that progress in the short term makes it easier to accommodate the long term. Additional comments included that more attention should be paid to why technologies are not diffusing, and that policies should be considered that affect all three stages. An additional commenter suggested that many good technologies are not being invested in, which may indicate a market failure or barriers to diffusion and innovation of these technologies.

One participant expressed approval that 20- 40 percent of new CHP would not trigger NSR. The participant suggested that while NSR is being reformed, 100 percent should be the goal. Mr. Laitner responded that the percentage of new CHP that would not trigger NSR under current standards is closer to 60, and that they are trying to address CHP-specific issues in NSR.

One participant stated that when a model assumes a higher rate of efficiency improvement, that assumption tends to make the model understate the impacts on the economy. Citing that EPA has always been "bullish," the participant asked what are the policies needed to encourage the rate of efficiency to increase at this rate. A different participant posited that the historic rate of efficiency improvement is only 0.8, and the AMIGA model's use of 2.3 percent per year seemed questionable. Mr. Laitner answered that from 1996-1998, the rate of efficiency improvement was 2.6 percent per year, which is higher than the assumption in AMIGA.

A final participant stated that there is a lack of consultation by the government with industry on subsidies or tax incentives. The participant argued that industry professionals have better knowledge on how to overcome market barriers or failures than those not in the industry, and should therefore be consulted. Mr. Laitner answered that steps were being taken in both directions.

Mr. Laitner stated that he would be happy to mail the AMIGA results report to all interested parties and that it would be posted on the EPA web page at some point in the near future.

3. International Climate Negotiations

Mr. Doniger stated that events at the COP4 in Buenos Aires kept the momentum going in the international climate change negotiations. COP4 provided a set of decisions needed to set up the process and deadlines for developing the details on the flexibility mechanisms (trading, joint implementation, and the Clean Development Mechanism) and other elements.

The most important formal decision was setting up the guidelines for COP6 and the smaller intermediate meetings. There will be large meetings in June and the fall of 1999(COP5), June 2000, and the fall of 2000 (COP6). Technical meetings will convene at more frequent intervals.

In the case of the CDM, developing countries (especially those in Latin America and Africa) are beginning to realize that the CDM could be a new source of investment revenue for sustainable development, and have increased their efforts on getting it going as close to 2000 as possible.

Mr. Doniger perceives that attitudes are beginning to change and that there is a clearer sense in developing countries that climate change is something that needs to be addressed. Binding commitments to making emission reductions may be forthcoming in the next years. Late in the meeting, Argentina stepped forward to commit to a binding target in the next year and be a part of the future international emissions trading system. Kazakhstan made a similar commitment, as did two small island states. These actions are viewed as a crack in the Group of 77.

African countries conveyed the feeling of being ignored because so few international climate projects have been established there. But during COP4, meetings occurred between business interests and African diplomats. South Africa is a very possible player in the future. China may also be interested in hosting CDM projects.

Some countries are still standing in the way including India, China, and Saudi Arabia. The European Union continues to seek restrictions on emissions trading, but the group may not be unanimous on this point. The U.S. continues to work with 8 or 9 countries including Japan, Australia, New Zealand, Canada, Russia, Norway, Iceland, and Ukraine (the Umbrella group) and this group is emerging as a force arguing for binding targets with maximum flexibility.

• *Questions & discussion*

A participant asked about the upcoming schedule of negotiation-related meetings. Mr. Doniger noted that during the week after the current meeting, the State Department would be holding a public workshop on compliance and the flexibility mechanisms.

Another participant asked a question regarding language in a work list that emerged from COP4 regarding limits on trading and supplementarity. Mr. Doniger stated that the U.S. wanted to get away from focusing on the work list, because it is a compilation of different stakeholders' priorities and not necessarily indicative of what will be the entire group's priority. Mr. Doniger added that the U.S. is going to bring to an upcoming workshop a prototype of a carbon credit registry modeled after the acid rain allowance registry. The goal is to try and make the trading idea more realistic.

Mr. Doniger affirmed that the U.S. position in the upcoming meetings will be to continue opposing ceilings on trading. Mr. Doniger noted that a defect in the modeling done by EIA was that limits on trading were assumed.

Robert Stavins noted that most countries in the world will not have domestic tradeable permit systems, and therefore will be using different policy options to meet their Kyoto commitments. He suggested that

Mr. Kertcher delivered an overhead presentation on the discussions of the newly created Output Emissions Limitation Workgroup. The purpose of this group is to consider the issues surrounding state allocation of NO_X allowances on an output basis and help EPA provide guidance to states regarding implementation of such an allocation system. The Workgroup met for the first time on February 3rd, and began its work with discussion the merits of allocating allowances on an output basis.

Mr. Kertcher talked about allocating emissions based on *net* or *gross* generation. The first slide depicted the advantages of using *gross* generation. Gross generation is already measured and reported by plants. In addition, of two units using the same fuel, it puts the unit with add-on emission controls in a more competitive position. Also, there are additional incentives for greater plant efficiency.

The second slide showed the advantages of allocating emissions based on *net* generation. This method would more closely link a plant's emission reductions to the market value of electricity, creating a level playing field for fuel and technology choice. It also would create incentives for more energy efficient pollution prevention because end of the pipe pollution control equipment requiring auxiliary power would not be given allocations. Similarly, this method creates greater incentives to more efficiently use energy within a facility. Mr. Kertcher stated that if using net generation, more monitoring issues would be involved.

The third slide outlined decisions made regarding accounting for steam and electricity output from cogeneration units and industrial boilers. It was decided that steam and electricity are separate commodities, and should be accounted for and dealt with separately. The workgroup thinks that steam from a cogeneration unit and an industrial boiler should receive the same allocation. For this method, more information would be required on industrial boilers.

The fourth slide showed the Workgroup's agenda for over the next four to five months. The group will investigate better accounting methods of allocating allowances on an output basis, assess the associated environmental and economic impacts, identify the merits of an output and input-based systems, decide whether to include all generation or only fossil generation, and decide whether a static or updating system is better. A schedule of confirmed meetings and conference calls can be obtained from Mr. Kertcher once it is available.

• *Questions & discussion*

Robert Stavins asked if there had been an attempt to use total work output as opposed to only steam output. Mr. Kertcher responded that that issue has not yet been addressed. Mr. Stavins raised the issue of the allocation time period, citing that while shorter time frames reduce barriers to entry and give dynamic incentives to use better technology, the administrative cost of the program increases and it is more difficult for utilities to plan their investments. Mr. Stavins suggested that the static optimization models EPA has used may not be sufficient; dynamic modeling may better help address this issue. Mr. Kertcher responded that the group will address the "periodicity" issue more in the future.

A participant noted that the implementation of an allowance system that allocates allowances to plants that do not have to meet standards is a reason for concern. The participant cautioned against promoting an allowance system as a way to reduce costs but then increase costs through redistribution of generation rights. The participant argued that this system goes well beyond what the SIP call is about. Mr. Kertcher answered that later meetings of the group will focus on the merits of the various choices, and the environmental and economic impacts.

Mr. Kertcher summarized his presentation and noted that the committee is looking for volunteers to present opinions and findings to the workgroup at future meetings.

5. State SIP Workgroup Update

Anna Garcia
Atmospheric Pollution Prevention Division

Anna Garcia's discussion on the State SIP workgroup was postponed until the end of February. The Workgroup's progress will be discussed during an upcoming conference call.

6. Wrap Up, Next Steps, and Adjourn Meeting

Kathleen Hogan
Atmospheric Pollution Prevention Division

Kathleen Hogan thanked the participants for their attendance. Ms. Hogan noted that EPA will be receiving the more detailed materials promised by the speakers on the early credit bill, the AMIGA analysis, the dates and topics for the international negotiations. Ms. Hogan reminded participants about the conference call to be scheduled on the state SIP workgroup. The next subcommittee meeting will be around April 26th in Portland, Oregon.

Participants

Joe Goffman	EDF
Larry Kertcher	EPA
Sarah Dunham	EPA
Bill Hamilton	EPA
Anna Garcia	EPA
Kathleen Hogan	EPA
Paul Rasmussen	EPA
Pete Jonker	SEMPRA Energy
Jack Brunton	SEMPRA Energy
Tom Snyder	Argonne National Laboratory
Ken Colburn	New Hampshire State Air Director
Robert Gelma?	Southern Company
Robert Morris	Coastal
Marc Phillips	Enron
Robert Stavins	Kennedy School of Government
Jeff Muffat	3M
Michael Bradley	MJB&A
Kevin Anderson	NPRA
Joel Bluestein	Coalition for Gas-Based Environmental Solutions
Bruce Craig	E3 Ventures
Rhone Resch	Natural Gas Supply Association
Dick Wilson	NES
Bob Friedman	Heinz Center
Bob Wyman	Latham & Watkins
Bill Tyndall	Cinergy
Gary Risner	Weyerhauser
Gene Trisko	United Mineworkers Association
Alison Ling	Navy
Elsie Muncell	Navy
Ron Granden	Air/Water Pollution
Katie Hambarger	American Forest and Paper Association
Bill Becker	STAPPA/ALAPCO
Richard Ayres	Howrey and Simon
John A. Paul	RAPCA
Stacy Klein	Mitsubishi Motors
Alison Bird	FedEx
Larry Feldcamp	Baker and Botts
Perry Bissell	Consol, Inc.
Tim Hargrave	CCAP
Tony Earl	CCAP
Elaine Barron	JAC Pasodel Norte
Herb Williams	Texas NRCC
Clara Possenberge	Baker and Botts